

REMARKS

Reconsideration and allowance of the above-identified application are respectfully requested.

Claims 1-18 are currently pending, wherein claims 1, 3, 7, 8, 12, 13, 14, 15, 17, and 18 are independent.

Claims 3-6 are allowed, and the Applicant is appreciative of the finding of allowance by the Patent Office.

As noted in a previous response, claims 19-46 are canceled, and the Applicant reserves the right to file divisional applications to the non-elected claims.

Applicant respectfully notes that, in Figure 2 of the present application, Element 28 was mislabeled as "PCS Encoder." Applicant hereby amends Figure 2 to change the label to "PCS Decoder" merely to address this typographical error. Applicant hereby submits one (1) sheet of formal drawings for Figures 28 in connection with the above-identified application, the sheet marked "REPLACEMENT SHEET." No new matter has been introduced by way of this amendment. Should the enclosed drawing require changes, it is respectfully requested that the Patent Office notify the undersigned of same.

Applicant would like to thank Examiner Tan Mai for the personal interview conducted on July 27, 2005. In compliance with M.P.E.P. § 713.04, the substance of that interview is incorporated in the following remarks.

Applicant notes with appreciation the acknowledgment by the Patent Office of the Information Disclosure Statements previously submitted to the Patent Office on March 4, 2005. Applicant notes, however, that the Patent Office did not acknowledge all of the

submitted documents. Therefore, Applicant hereby submits an additional information disclosure statement with the previously un-acknowledged document listed therein, along with a copy of the originally filed information disclosure statement. Consideration and acknowledgement of the document are respectfully requested.

In the second section of the Office Action, claims 1-2 and 7-18 are rejected under 35 U.S.C. § 103(a) as allegedly being unpatentable over Lish (U.S. Patent No. 5,050,119, hereinafter “Lish”). No agreement was reached during the interview. This rejection is respectfully traversed.

As understood by Applicant, Lish is directed to an optimized sparse transversal filter circuit that has more delay elements than adjustable multipliers, and a switching arrangement for supplying each multiplier with the signal from a selected one of a group of the elements. Each delay element is a member of one of the groups. The outputs of the multipliers are added, and their sum is used to control the optimization of the multiplier weights for a given set of switched connections. Successive sets of connections are established to develop sets of optimized weights, until each delay element output has been used. A globally optimized set of connections and weights is then used for processing information. [see Lish, Abstract]

The switching arrangement in Lish is shown and described in reference to Figures. 4A and 4B. As Figure 4B illustrates, an input signal X_{in} is received by a series of delay elements Z^{-1} . The switching arrangement taps into the series of delay elements Z^{-1} periodically, and each individual switch can access the input signal from one of three different locations. The three locations are: i.) before a first delay element; ii.) between the first and a second delay element; and iii.) after the second delay element. Thus, there are two delay elements for each switch of the switching arrangement. In addition, however, between the first and second set

of delay elements for the first and second switches, there is an additional delay element, and this arrangement continues for as many switches as are used in the switching arrangement (i.e., between the second and third there is an additional delay element, between the third and fourth there is an additional delay element, and so on).

Contrary to the assertions of the Patent Office, Applicant respectfully submits that Lish does not teach nor suggest all of the features of present invention. For example, it is respectfully submitted that Lish does not disclose or suggest the feature of, for example, a delay coupled between two of the plurality of filter stages to delay application of the input signal to at least one of said filter stages **to skip filtering a portion of the input signal**, as recited in, for example, independent claim 1 of the present application.

As acknowledged in the Office Action and by the Patent Office during the interview, Lish does not “specifically detail the claimed ‘delay . . . to skip filtering a portion of the input signal’ . . .” [Office Action, page 2 (emphasis added)] However, despite the utter lack of teaching or disclosure, the Patent Office asserts that “the ‘switching matrix’ S1-S4 are **capable of providing** the equivalent function of the claimed ‘delay . . . to skip.’” [Office Action, page 2 (emphasis added)] The Patent Office maintains that, with reference to, for example, Figure 4B of Lish, the invention disclosed by Lish is allegedly capable of skipping filtering of a portion of the input signal, because each filter circuit unit includes a shift register and processes a portion of the input signal.

Respectfully, Applicant submits that the Patent Office has provided absolutely no support for its bald and unfounded assertion. Rather, to justify its position, the Patent Office merely states that “[i]t would have been obvious to a person having ordinary skill in the art at the time the invention was made to design the claimed invention according to Lish’s

teachings because the device is an FIR filter having a plurality of filter stages as claimed.”

[Office Action, page 2]

According to M.P.E.P. § 2144.03,

[a]ny rejection based on assertions that a fact is well-known or is common knowledge in the art without documentary evidence to support the examiner's conclusion should be judiciously applied. Furthermore, . . . any facts so noticed should be of notorious character and serve only to “fill in the gaps” in an insubstantial manner which might exist in the evidentiary showing made by the examiner to support a particular ground of rejection. It is *never* appropriate to rely solely on common knowledge in the art without evidentiary support in the record as the principal evidence upon which a rejection was based. [M.P.E.P. § 2144.03 (emphasis added)]

Thus, “if the examiner is relying on personal knowledge to support the finding of what is known in the art, the examiner must provide an affidavit or declaration setting forth specific factual statements and explanation to support the finding.” [M.P.E.P. § 2144.03]

It is respectfully submitted that the Patent Office is using “personal knowledge” regarding what Patent Office believes the invention according to Lish is capable of performing, in particular, that “the ‘switching matrix’ S1-S4 are capable of providing the equivalent function of the claimed ‘delay . . . to skip’.” [Office Action, page 2] The Patent Office has provided absolutely no support, either implicitly or explicitly within Lish or otherwise, for the bald assertion that the invention disclosed by Lish is allegedly capable of skipping filtering of a portion of the input signal. Applicant respectfully traverses such a use of “personal knowledge,” and requests that the Patent Office provide an affidavit or declaration setting forth specific factual statements and explanations to support such a finding, in accordance with the mandates of M.P.E.P. § 2144.03.

Additionally, according to M.P.E.P. § 2143, to establish a *prima facie* case of obviousness, three basic criteria must be met. "First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to modify the reference or to combine reference teachings."

[M.P.E.P. § 2143] In other words, "[o]bviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art." [M.P.E.P. § 2143.01] The Patent Office has completely failed to provide any such suggestion or motivation in Lish or in the knowledge generally available to one of ordinary skill in the art for its assertions. Therefore, it is respectfully submitted that the Patent Office has failed to establish a *prima facie* case of obviousness with respect to, for example, claim 1 of the present application.

Rather, it is respectfully submitted that the Patent Office is clearly and unequivocally using impermissible hindsight in an attempt to render the claims of the present application obvious and to justify the unfounded and baseless assertion that Lish is capable of skipping filtering of a portion of the input signal. According to M.P.E.P. § 2142, "[t]o reach a proper determination under 35 U.S.C. 103, . . . impermissible hindsight must be avoided and the legal conclusion [of obviousness] must be reached on the basis of the facts gleaned from the prior art." Furthermore, according to M.P.E.P. § 2143.01, "[t]he mere fact that references can be . . . modified does not render the resultant combination obvious unless the prior art also suggests the desirability of [such modification]." [citing *In re Mills*, 916 F.2d 680, 16 U.S.P.Q.2d 1430 (Fed. Cir. 1990)] By stating that the claimed invention *could* be designed

according to Lish "because the device is an FIR filter having a plurality of filter stages as claimed," it is respectfully submitted that the Patent Office has relied upon impermissible hindsight and has used the disclosure of the Applicant's own application as a "road map" to modify Lish. The Patent Office has offered no proper support or motivation for modifying Lish, independent of Applicant's own disclosure. It is respectfully submitted that the rejection based on obviousness is founded upon "knowledge gleaned only from applicant's disclosure." [see M.P.E.P. § 2145] Consequently, it is respectfully submitted that the rejection entails hindsight and is, therefore, improper.

Consequently, it is respectfully submitted that Lish does not render the subject matter of, for example, independent claim 1 obvious.

Independent claims 7, 8, 12, 13, 14, 15, 17 and 18 recite features similar to those recited in independent claim 1, and are, therefore, patentably distinguishable over Lish for at least those reasons stated above with regard to claim 1.

For example, with respect to the rejection of independent claims 7 and 13, it is respectfully submitted that the Patent Office has failed to show where Lish teaches or suggests the features of, for example, "*a first block of filter stages* having a respective first plurality of taps which receive a respective first plurality of weighting coefficients, for filtering a first portion of the input signal in accordance with the first plurality of weighting coefficients," and "*a second block of filter stages* having a respective second plurality of taps which receive a respective second plurality of weighting coefficients, for filtering a second portion of the input signal in accordance with the second plurality of weighting coefficients." In particular, during the interview, the Patent Office acknowledged that Lish does not disclose or suggest such features.

Furthermore, with respect to the rejection of independent claim 8, it is respectfully submitted that the Patent Office has failed to show where Lish teaches or suggests at least the feature of “at least one delay element has a period of delay that is selectable.” It is respectfully submitted that Lish does not teach or suggest that one or more of the delay elements as shown in, for example, Figure 4B of Lish has a period of delay that is *selectable*.

Dependent claims 2, 9-11, and 16 variously depend from independent claims 1, 8 and 15, and are, therefore, patentably distinguishable over Lish for at least those reasons stated above with regard to claims 1, 8 and 15. For example, the Patent has completely and utterly failed to show where any of the features of dependent claims 2, 9-11, and 16 are taught or suggested in Lish. Consequently, it is respectfully submitted that the Patent Office has failed to establish a *prima facie* case of obviousness with respect to claims 2, 9-11, and 16 of the present application.

For at least the foregoing reasons, it is respectfully submitted that Lish does not render the subject matter of claims 1-2 and 7-18 obvious. Accordingly, reconsideration and withdrawal of these grounds of rejection are respectfully requested.

All of the rejections raised in the Office Action having been addressed, it is respectfully submitted that the present application is in condition for allowance and a notice to that effect is earnestly solicited. Should the Examiner have any questions regarding this response or the application in general, the Examiner is urged to contact the Applicant's attorney, Andrew J. Bateman, by telephone at (202) 625-3547. All correspondence should continue to be directed to the address given below.

Respectfully submitted,

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